



## Special AIRS Validation: *Lidar Detection of Clouds and Water Vapor*



Full Title: **Water Vapor and Cloud Detection Validation for Aqua Using Raman Lidars and AERI**

Principal Investigator: David N. Whiteman, Goddard Space Flight Center

Co-Investigators: W. McMillan, R. Hoff, T. Berkoff, B. Demoz/UMBC; G. Schwemmer/GSFC; G.J. Jedlovec/MSFC; D.H. DeSlover/U.Wisconsin/CIMSS

Description of Experiment: **Simultaneous lidar tropospheric water vapor profiles and AERI spectra.**

**Calibration of UMBC AERI and ALEX lidar with GSFC lidar. Particular emphasis on measurements in the presence of cirrus clouds.**

Quantities Measured: Water vapor mixing ratio profile; infrared spectra; cirrus cloud properties: boundaries, optical depth, extinction / backscatter ratio, diffraction equivalent particle radii.

Region of Observations: **GSFC; UMBC; dedicated field campaigns.**

Time of Observations: **L+3 to L+5 months at AIRS overpasses. Winter deployments to UMBC thereafter will focus on cirrus cloud measurements properties.**

Special Observing Constraints: **First year may include field campaigns.**

